

# GLOCK HANDBOOK

AN OPERATIONAL GUIDE TO THE GLOCK HANDGUN

TYPE: SEMI-AUTOMATIC PISTOL



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MIKE PANNONE AND ERIK LAWRENCE

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## AN OPERATIONAL GUIDE TO THE GLOCK HANDGUN

*by*

Mike Pannone and Erik Lawrence

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Erik Lawrence  
21150 Barbour County Highway | Philippi, WV 26416  
[erik@vig-sec.com](mailto:erik@vig-sec.com)

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# WARNING, SAFETY, AND TRAINING

## WARNING

Firearms are potentially dangerous and must be handled responsibly by individuals. The technical information presented in this publication on the use of the weapon system reflects the author's research, beliefs, and experiences. The information in this book is presented for academic study only. Neither the author nor the publisher assumes any responsibility for the use or misuse of information contained in this book.

## SAFETY NOTICE

Before starting an inspection, ensure the weapon is cleared. Do not manipulate the trigger until the weapon has been cleared of all ammunition. Inspect the chamber to ensure that it is empty and no ammunition is present. Keep the weapon oriented in a safe direction when loading and handling.

## TRAINING

Training should be received from knowledgeable and experienced operators on this particular weapons system.

## ACKNOWLEDGEMENTS

To all those armed with Glock pistols who stand in harm's way every day in support of freedom, law, and order and in defense of the innocent, this book is for you.

**“The bravest are surely those who have the clearest vision of what is before them, glory and danger alike, and yet notwithstanding, go out to meet it.”**

**Thucydides, 471 B.C.**

## CHAPTER 1

# HANDGUN SAFETY

Safety with handguns is one of the most critical aspects of handgun training. Because of the size and portability of handguns, they are prone to being inadvertently pointed in directions that the possessor does not intentionally desire. Often when an individual is addressed while holding a handgun, he or she will turn to face the person speaking and thereby accidentally point the pistol at that individual or some other unsuspecting person on the range. For that reason, shooters must be aware of the muzzle orientation of their pistol at all times, keep their finger off the trigger unless firing the weapon, and if at all possible, safe the pistol and return it to the holster or render it safe and point it in a safe direction when interacting with others that are not hostile.

There is often confusion between what I will refer to as “administrative protocol” and “weapons safety.” Administrative protocol or a “range-ism” consists of what each range institution has decided it will or will not allow and generally consists of guidelines on how it wants training conducted. Some of these are safety oriented but more often than not, they are designed to limit the range of actions that can be taken by a shooter and thereby not give that shooter the opportunity to make a mistake. The practical downside to most of these restrictions is that they do not coincide with combat-oriented training, and shooters learn to act only if directed to do so and begin to stop thinking independently for fear of being reprimanded. They will wait to be directed and conduct actions that often defy common sense without a second thought, and that action creates a substantial safety risk.

Having witnessed several accidental discharges and shooting incidents, I have heard the three statements you will hear before anything else: “I didn’t think..., I didn’t know..., I didn’t see...” The one that covers it all is “I didn’t think.” When you direct someone not to think on his own, often he stops thinking all together and just follows commands robotically. That is where the safety hazard is hidden.

A perfect example of a “range-ism” is the clearing procedure on most ranges. Often you will see shooters told to drop the magazine from the weapon onto the ground instead of dropping it into their hand and transferring it into a pouch or pocket. This is done for one of two erroneous

reasons: 1.) because the institution does not trust the shooter to control a magazine in one hand and a pistol in the other; to that I respond if one can't safely do that, one shouldn't have a pistol in the first place. 2.) "If they drop the magazine in their hand, then they'll do it in a gunfight."

This is based on the Newhall incident in 1970, where four California Highway Patrol officers were killed by two heavily armed criminals. There have been contradictory stories as to whether or not the officers had been found with empty brass in their pockets. If so, this is very likely attributable to putting the expended cases in the shooter's pocket to avoid range cleanup, a range habit that in years gone by was all too common when shooting revolvers.

The point is good training does not mean doing all things only one way; it means doing all things the logical way. There is no reason, at the close of a shooting evolution when the line has been administratively directed to go cold, that a shooter must drop a magazine to the ground. There are verbal and physical cues that reinforce the administrative clearing action, and that is distinctly different from an actual tactically oriented shooting drill.

Remember, when you go "admin" (administrative), that means there is no constraint of time or tactical necessity; i.e., you're not on the clock, and nobody is shooting at you. As long as there are distinct cues in your training that are reinforcing situation-appropriate actions, there is no need for protocol-driven range practices that are of no benefit.

Safety, on the other hand, is quite clear and easy to understand.

## SAFETY

- Treat all weapons as though they are loaded, regardless of their condition.
- Never point a weapon at anything you are not willing to kill or damage.
- Keep your weapon on safe and finger off the trigger until your sights are aligned and you make the conscious decision to fire.
- Know your target, foreground, background, left, and right. Be aware of the ballistic capability of your weapon and the backstop.

"DOWN RANGE"

Down range is an administratively designated area where projectiles are intended to impact. Conditions and range status will identify it is a direction where a weapon may or may not be safely pointed and discharged.

### **“SAFE DIRECTION”**

A safe direction by definition is a direction in which a weapon is pointed where a negligent or accidental discharge cannot harm personnel or equipment.

**\*DOWN RANGE IS NOT ALWAYS A SAFE DIRECTION!**

## CHAPTER 2

# GLOCK SPECIFICATIONS

TYPE: Semi-automatic pistol

COUNTRY OF ORIGIN: Austria, 1980

DESIGNER: Gaston Glock

MANUFACTURER: Glock GmbH

SERVICE LIFE: 1980-Present

FEEDING: detachable box magazine

SIGHTS: Fixed, adjustable, and illuminated night-notch sights



### **Variants**



Model number	Cartridge	Total length		Barrel length		Magazine Capacity		Weight (unloaded)		Style
		(mm)	(in)	(mm)	(in)	Std	Optional	(g)	(oz)	
17, 17C	9x19mm	186	7.32	114	4.49	17	10, 19, 33	625	22	Standard
17L		225	8.86	153	6.02	17	10, 19, 33	670	23.6	
18, 18C		185	7.28	114	4.49	33	10, 17, 19	620	21.9	
19, 19C		174	6.85	102	4.01	15	10, 17, 19, 33	595	21	Compact
20, 20C	10mm Auto	193	7.60	117	4.61	15	10	785	27.7	Standard
21, 21C, 21SF	.45 ACP					13	10	745	26.3	
22, 22C	.40 S&W	186	7.32	114	4.49	15	10, 17	650	22.9	Compact
23, 23C		174	6.85	102	4.01	13	10, 15, 17	600	21.2	
24, 24C		225	8.86	153	6.02	15	10, 17	757	26.7	Competition
25	.380 ACP	174	6.85	102	4.01	15	17, 19	570	20.1	Compact
26	9x19mm	160	6.30	88	3.46	10	12, 15, 17, 19, 33	560	19.8	Subcompact
27	.40 S&W					9	11, 13, 17	560	19.8	
28	.380 ACP					10	12, 15, 17, 19	529	18.7	
29	10mm Auto	172	6.77	96	3.78	10	15	700	24.7	
30, 30SF	.45 ACP					10	9, 13	680	24	
31, 31C	.357 SIG	186	7.32	114	4.49	15	17	660	23.3	Standard
32, 32C		174	6.85	102	4.01	13	15, 17	610	21.5	Compact
33		160	6.30	88	3.46	9	11, 13, 15, 17	560	19.8	Subcompact
34	9x19mm	207	8.15	135	5.31	17	10, 19, 33	650	22.9	Competition
35	.40 S&W					15	10, 17	695	24.5	
36	.45 ACP	172	6.77	96	3.78	6	-	570	20.1	Slimline
37	.45 GAP	189	7.44	116	4.56	10	-	735	25.9	Standard
38		174	6.85	102	4.01	8	10	685	24.2	Compact
39		160	6.30	88	3.46	6	8, 10	548	19.3	Subcompact



## CHAPTER 3

# GLOCK INTRODUCTION AND CHARACTERISTICS



**Figure 3-1 Glock Pistol**

The Glock series of pistols began fielding as the standard service pistol of the Austrian Army in 1982. It was designated the P80 and is heralded as the single greatest evolution in pistol design since the Colt M1911 by John Moses Browning. The Glock line of pistols is legendary for its simplicity and reliability. They are employed by countless military and law enforcement organizations worldwide, and as of 2008, Glock has sold more than 2.5 million pistols in over 100 countries.

They are recoil-operated locked-breech detachable-box-magazine-fed semiautomatic pistols. The only exception is the .380ACP variant using the straight blowback operation. They come in various calibers from .380ACP to .45ACP and sizes from subcompact with 3.46" barrel to the long-slide 34/35 with 5.32" barrel. The now-discontinued G17L/24 had 6.02" barrels but was replaced by the abovementioned G34/35. Current production Glock pistols consists of 34 parts, which includes the magazine. For maintenance, the pistols disassemble into five groups: the barrel, slide, frame, magazine, and recoil spring assembly. The Glock uses a modified Browning locked-breech short-recoil operating system with a vertically tilting barrel. The barrel recoils rearward, locked together with the slide approximately 1/10 of an inch. This locked rearward movement allows the bullet to leave the barrel and pressure to drop to a safe level before the extraction of the spent

case begins. A ramped surface at the bottom of the barrel engages a corresponding surface in the frame called the locking block. These two surfaces cam the barrel downward and unlock it from the slide as the slide continues to the rear.

The slide has an external spring-loaded machined-steel extractor and a stamped sheet-metal ejector pinned to the trigger housing. The Glock uses a striker firing mechanism, meaning that the firing pin itself is spring loaded, and when released, is propelled forward using the energy from the striker spring and the inertia of the striker itself. The easiest way to remember the difference between striker-fired pistols and traditional semi-automatic pistols is that a traditional pistol has a hammer that strikes the firing pin, propelling it forward, whereas the striker-fired gun has no hammer, but instead uses a spring and the weight and inertia of the striker itself. When the weapon is charged, the striker is in a partially cocked position. As the trigger is pressed to the rear, the striker is brought to the fully cocked position. At the end of its travel, the trigger bar is tilted downward by the connector, releasing the striker and firing the pistol. The connector also captures the striker at the end of the firing cycle and ensures the pistol can only fire semi-automatic. The exception to this is the select-fire G18.

The Glock has redundant safeties that secure the weapon against accidental discharge. The three safety mechanisms are an external trigger safety and two automatic internal safeties. The internal safeties are a firing pin safety and a drop safety. The external safety is a small inner lever contained in the trigger. The firing pin block is a solid hardened-steel pin which, unless the trigger is pulled completely to the rear, blocks the firing pin channel, stopping it from striking the primer of the cartridge. The drop safety guides the trigger bar on a safety ramp that is only released when the trigger is pulled completely to the rear. The safeties are disengaged in succession when the trigger is pressed to the rear and then automatically reset when the trigger is released.

## CHAPTER 4

# LOADING AND UNLOADING

### LOADING

1. Lock the slide to the rear.
2. Inspect the chamber, magazine well, extractor and ejector for debris and damage.
3. Seat a magazine into the magazine well until it locks securely in place.
4. Release the slide, either with the slide stop (recommended) or by grasping the slide, drawing it slightly to the rear and then releasing it all together.
5. Press check by slightly retracting the slide so as to witness a round in the chamber. Newer models Glock's have an extractor that is flush with the slide when the chamber is empty and raised when a round is present.

### NOTE

If the slide is locked to the rear, there is no need to slam the magazine in place. The act of slapping the magazine is reserved for when the slide is forward and the top round in making contact with the bottom of the slide. The slap is necessary to overcome the pressure exerted by the magazine spring via that top round. Slapping the magazine can often cause a malfunction by jarring loose a round from the magazine and creating a double feed or other stoppage.

When releasing the slide by grasping it and drawing it to the rear, the “slingshot” method, release it completely and allow it to go forward under its own spring tension. The pistol was designed to function reliably at the velocity the slide drops from the slide release.

### CLEARING YOUR WEAPON

1. Remove the source of feed (magazine).
2. Lock the slide to the rear, allowing the round to eject, and then inspect the chamber, magazine well, extractor and ejector\*.
3. Ride the slide forward, point the weapon in a safe direction (preferably at a target), and pull the trigger. Always think safety! The “T” Tyson clause- Make it a habit to double and triple check that your weapon is

clear any time there has been a long pause since the last time you checked it or if there is any doubt in your mind of the status.

## NOTE

It is advisable to inspect the extractor and ejector because these parts are the two most common ones to break on the pistol, and it will force you to inspect the magazine well area more closely, thereby making it far less likely that the pistol was inadvertently left loaded or not properly cleared.

## CHAPTER 5

# FUNDAMENTALS OF PISTOL MARKSMANSHIP

### PRINCIPLES OF MARKSMANSHIP

#### 1. STANCE

The feet should be slightly wider than shoulder width apart. The non-firing foot is slightly forward of the firing foot (normally 2 to 4 inches) and is pointed directly at the target. Your firing foot should be firmly planted to provide you with balance. Use your back foot (firing foot) to generate either forward or lateral movement quickly. Your knees will be slightly bent, and your upper torso leaning forward based on the firearm and speed you desire to shoot. Stand with your shoulders and head square to the target and your head erect. The stance must be comfortable, Figure 5-1.



**Figure 5-1 Stance**

#### 2. GRIP

Your grip should allow you to place your trigger finger so that you have maximum control. Your non-firing hand should make a fist over your strong (firing) hand, Figures 5-2a & b. The thumb of your weak hand should be parallel to and slightly below the thumb of your strong hand (this may vary from shooter to shooter), and the index finger of the weak hand should be

under the trigger guard and pushing up. The goal is to get as high up on the back strap as possible, thereby getting the center axis of the bore closer to the center axis of your hand.



**Figure 5-2a Grip**



**Figure 5-2b Grip – overhead view**

This position will reduce the perceived recoil and muzzle flip by giving you a relatively better mechanical advantage. The higher the pistol sits in your hand, the more leverage it has and the more perceived recoil you will experience. Crossing your thumb will create a gap in the grip and allow the pistol to move during recoil. Thumbs stacked and forward is the recommended technique and will give better stability than crossed thumbs. \*Using the index finger of the support hand on the trigger guard, though done successfully by some shooters, is not recommended. All but a few

shooters have a strong tendency to pull or push the pistol with that hand, and it does not allow the support hand to exert the maximum amount of control over the weapon.

### 3. SIGHT ALIGNMENT

This step is accomplished by centering the front sight blade in the rear sight notch, Figure 5-3. The top of the front sight must be level with the top of the rear sight and in alignment with the eye.



**Figure 5-3 Sight Alignment**

(If you are not sure which is your dominant eye, extend your arm and point your finger at an object. Close your left eye first and observe your finger with your right eye. Then open your left eye and close your right eye, and observe your finger. Whichever eye observes your finger pointing directly at the object is your dominant eye.)

### 4. SIGHT PICTURE

This step is the positioning of the weapon's sights in relation to the target as seen by the shooter when he/she aims the weapon. A correct sight picture consists of proper sight alignment, with the front sight placed center mass of the target. The eye can focus on only one object at a time at different distances; therefore, the last point of focus of the eye is on the **front sight**. When the front sight is seen clearly, the rear sight and target will appear out of focus.

### 5. BREATH CONTROL

To hold the breath properly, take a deep breath and let it out, much like a sigh. Once you have let all the air out of your lungs without forcing it out, you will be at your natural respiratory pause. All that will remain in your



lungs is what is called your residual volume. This will serve to relax you, and remove any tension associated with holding your breath. Your goal should be to breathe normally and take your shots at the natural respiratory pause. The natural respiratory pause is the point of greatest relative physiological stability.

## 6. TRIGGER CONTROL

Settle into the aiming area, acquiring good sight alignment and a proper sight picture. At that point apply pressure smoothly and evenly to the rear without interruptions until the weapon fires. If you desire to fire another shot without bringing the weapon off the line of sight, release the trigger without losing contact with it, and begin pressure to the rear again when ready.

## 7. FOLLOW-THROUGH

This principle is the conscious attempt to keep all control factors applied through the break of the shot. You should continue to maintain concentration on sight alignment even after the shot is on the way. By doing this, each shot you fire will be a surprise, with no reflexes of anticipation to disturb your sight alignment.

## 8. RECOVERY

This step is the return of the weapon to the original holding position in the center of the aiming area, accompanied by a natural alignment of the sights. If you use the proper stance and the correct grip, the recovery is more natural and uniform. Recovery can be accomplished as quickly as possible by taking the recoil straight back into the shoulder. The instant the weapon is fired, you must immediately resume the sequence of applying the fundamentals for the next shot. This is called the “+1 concept.” Simply stated, it is taking every shot as though you were going to take another one so as to exercise and reinforce the follow-through and recovery.

## CHAPTER 6

# WEAPON HANDLING

### FIREARM HANDLING

#### DRAW

1. The draw is broken down into four counts for training. Note that in practice, it is one smooth motion.

a) Move the firing hand to the holster and grasp the pistol, Figure 6-1a.

b) Raise the weapon until it clears the holster, Figure 6-1b

c) Move the non-firing hand to meet the firing hand near the midsection of the body, and grasp the weapon with both hands, Figure 6-1c.

d) Push the weapon out to your line of sight while identifying your target. Your vision should be on the point you wish to deliver fire, using your body's natural ability to point the pistol; then, as the sights begin to reach your line of sight, transfer your vision to the front sight all the way to the target using a proper sight picture, Figure 6-1d.



**Figure 6-1a Grasping the pistol**



**Figure 6-1b Initial draw**



**Figure 6-1c Hand meet  
at center**



**Figure 6-1d Full  
presentation to target**

## RELOADS

### RELOAD:

Discarding a partially expended magazine and replacing it with a full one without retaining the partially loaded one. This action may be necessary if having the gun topped off to capacity is of more tactical importance than retaining the magazine.

1. Rotate the pistol 90 degrees towards the body and at generally a 45 degree angle while simultaneously depressing the magazine release and ejecting the partially expended one, Figure 6-2a.
2. Bring the non-firing hand from the gun to the center of the body, thumb towards the sternum and pointing at the ground, Figure 6-2a.
3. Sweep in the direction of the magazine carrier (given that magazines are carried on the off side), Figure 6-2b.
4. Once the hand hits a magazine during the “centerline sweep,” place the index finger of the non-firing hand on the forward-facing portion of the magazine to be placed in the weapon, Figure 6-2c.
5. Withdraw the magazine from its carrier; rotate it 90 degrees, bringing it to eye level. During that same time, rotate the weapon at eye level towards your body 90 degrees and elevate it 45 degrees.

6. While looking at the magazine well, place the magazine into the well until you feel it click or are sure it has been seated properly, Figure 6-2d and 6-2e.
7. Slide the non-firing hand into the normal shooting grip and push the pistol back out on target, Figure 6-2f.

#### NOTE

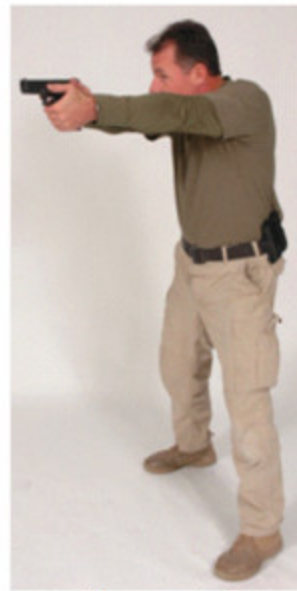
If the magazine is carried in a different position, start at the point where the magazine has been retrieved from the carrier.



**Figure 6-2d**



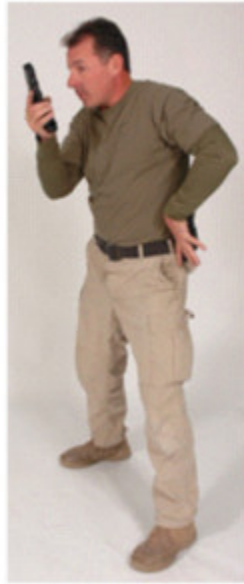
**Figure 6-2e**



**Figure 6-2f**



**Figure 6-2a**



**Figure 6-2b**



**Figure 6-2c**

### SLIDE LOCK RELOAD:

A reload is conducted when the slide has locked to the rear on an empty magazine.

The emergency reload is conducted in the same way as the speed reload but with the additional requirement of releasing the slide. Releasing the slide can be done in a whole host of ways based on your hand size and dominant hand. It is preferred, if possible, to use the slide stop to release the slide, but if the shooter is not comfortable or confident with that, the slingshot method can be used as well. When releasing the slide via the slide stop, use either the thumb on the firing or non-firing hand.

When using the slingshot method, there are two ways to release the slide: thumb forward or thumb back. Both work better in different situations and may have certain drawbacks.

Thumb forward is conducted once the fresh magazine is seated by rotating the pistol 90 degrees toward the non-firing hand, which grasps the slide as the weapon is being pushed back out on target. Grasp the slide and hold it while pushing the gun out. As the pistol breaks the grip of the non firing hand, the slide will have been drawn back enough to release the slide stop, and the slide will go forward under its own pressure. Once the slide has been released, reacquire your grip and either sight and re-engage or safe the pistol as necessary.

The thumb-forward technique keeps the shooter closer to the normal shooting configuration and takes good advantage of natural range and economy of motion. It is not the preferred method if the shooter is operating in a confined space, like a vehicle. If in a confined space, the thumb-back method is better. This method is conducted by dropping the pistol generally to sternum level and rotating the non-firing hand back so the thumb is pointed at the sternum. Once the non-firing hand has acquired the slide, pull to the rear while pushing the gun back out on target, reacquire the normal shooting grip, and continue as above.

\*The drawback to thumb forward is that it can be difficult in a confined space. The benefits are that it is faster overall, faster back on target, more within the normal range of strength and dexterity, and less outside the normal shooting presentation.

\*The drawbacks to thumb back is that it is further outside the normal range of motion and shooting presentation, and the shooter can potentially foul the slide with a gloved hand or a part of the sleeve.

The benefits are that when you are in a confined space, from a weapon's retention perspective, it keeps the pistol closer to the body and easier to fend off attempts to disarm.

## MAGAZINE EXCHANGE

(also called a tactical reload or a reload with retention)

A magazine exchange is conducted when the shooter wishes to retain a partially expended magazine while replacing it with a fully loaded one.

The exchange is conducted in the same way as a speed reload until the magazine reaches the pistol.

1. At that point, the index finger is slid down from the front of the magazine to the side, giving the shooter a contact surface to hold the partially expended magazine with the thumb, Figure 6-3a.
2. Drop the partially expended magazine in between the thumb and forefinger, and then rotate the hand 45 degrees in the direction of the full magazine and seat it in the well, Figure 6-3b.
3. Once the fresh magazine is seated, stow the partial magazine in a pouch, pocket, or compartment of your choosing to retain the ammunition, Figure 6-3c – 6-3e.



**Figure 6-3a**



**Figure 6-3b**



**Figure 6-3c**



**Figure 6-3d**



**Figure 6-3e**

## **NOTE**

If at any time during the exchange a threat appears, reinsert whichever magazine is closest to being loaded into the weapon while allowing the other to drop free, and reengage as necessary.

## **WEAPON RETENTION OF DRAWN PISTOL**

This section is an overview and not designed to be a weapon-retention class. It will cover the principles of weapons retention that should be present in any unit, department, or agency retention class.

Weapon retention is critical in any encounter where there is close proximity to hostile or unknown persons. Here are the principles:

## **MAINTAIN SITUATIONAL AWARENESS**



Be vigilant at all times and never assume during any confrontation that any individual is harmless or not a threat.

### **KEEP THE PISTOL CLOSE**

Unless actively engaging, which requires full presentation of the pistol, the further from your body you hold the pistol the easier it is for an adversary to take hold of it, and the harder it is for you to fend that attack off.

### **KEEP BOTH HANDS ON THE PISTOL IF AT ALL POSSIBLE**

It will be far more difficult for an adversary to disarm you if you have your pistol in close and both hands on it.



**Figure 6-4 Retention**



## CHAPTER 7

# BODY MECHANICS AND PISTOL SHOOTING

Kinesiology is the study of the principles of mechanics and anatomy in relation to human movement. This chapter will discuss and clarify basic body mechanics as it relates to an effective shooting style. Before we continue, there are a few definitions that should be addressed.

### 1. INSTINCT

Instinct is the inherent disposition of a living organism toward a particular behavior. Instincts are unlearned, inherited fixed-action patterns of responses or reactions to certain kinds of stimuli.

### 2. LEARNED PATTERNS OF RESPONSE

A learned pattern of response is an action that has been learned, and over time has become so rehearsed that it appears to be automatic or “instinctive” (automated neural control). Startled response or flinch response is a good example of a learned pattern. Humans learn when startled to protect their face with their hands, and although that appears to be an instinct, it is actually a learned behavior. When humans are startled and have made that decision to face what they perceive as a threat, they square their body to the threat in somewhat of a crouch. This position allows them to bring to bear the entirety of their vision, along with their arms legs and teeth if the need arises to fight.

### 3. ECONOMY OF MOTION

This principle is physical efficiency creating maximum work. Most often used as an analogy is the geometry definition, “The shortest distance between two points is a straight line.” In layman’s terms, it is the most amount of work with the least amount of effort. Because of the need to maximize scarce resources like money or food, humans learn as they progress to maturity to create the most amount of benefit with the least amount of effort, satisfying the desire to avoid wasted energy. For this reason, we are predisposed to efficiency in most every facet of life: We plan vacations, shopping trips, and weekend chores, etc. Economy of motion is the hallmark of efficient weapons handling. Because it is a learned pattern, economy of motion can and should be continually refined in every training session.

## CRITICAL PATTERNS OF RESPONSE

Below are some critical learned patterns of response. They are important to an effective shooting style.

### 1. MAINTAINING BALANCE

One of the first skills a child must learn is the ability to balance, and with that, the ability to walk. This is a learned skill, but over time becomes so rehearsed that appears to become “instinctive”.

### 2. BODY POSITIONS FOR STRENGTH, DEXTERITY, AND VISUAL ACUITY

Because our safety often revolves around the ability to control our body movements, we learn through experience to adopt postures that give us stability, mobility, and strength relative to the perceived situational needs. What is most efficient for humans in their day-to-day activities is to function at the intersection of strength and dexterity and also the intersection of manual dexterity and visual acuity. In simple terms, this state is your most effective range of motion and focal length for the task at hand. For this reason, we believe the modified isosceles stance is the most stable and natural technique. It allows the shooter to take up generally the same type of stance a boxer or football player would use. Both of those sports put a premium on stability and mobility in all directions, as should a combat pistol shooter. It also allows the shooter to face square to his target as he would do, naturally giving the added benefit (if wearing body armor) of having his armor cover the maximum amount of critical surface area, while not exposing a far more lethal oblique shot. The Weaver stance, aside from violating the learned response of facing a threat and mitigating some of the benefits of body armor, creates muscular tension that pulls a shooter out of his natural range of motion, and thereby violates the concept of stability, mobility, and strength.

### 3. CO-OPTING BODY MOTIONS

Since we adopt postures that give us stability, mobility, and strength, we will often enhance our efficiency by co-opting existing body motions that have proven successful. The benefits of co-opting existing body motions are threefold:

- a) They are easier to learn because you aren't really “learning” them, only adapting them to a different task.

- b) They are easier to master rapidly and consistently.
- c) They are easier to execute on demand under stress.

These are critical but rarely acknowledged concepts and are a great way to explain to shooters of all levels why certain techniques work best.

Here are a few common questions shooters will ask and their explanations based on body mechanics.

- **“How far out should I extend my arms when I shoot?”** That distance is simple to explain. Extend your arm as though you were going to shake hands. Now look at the slight bend in your elbow. Do the same when reaching to grab an item, for instance a pen, from someone handing it to you, and then reach to pick up a bottle of water off a table. You will notice that the bend in your elbow is almost identical. Because you are not only judging distance, but also desiring to maintain strength and control, you have the intersection of visual acuity, manual dexterity, and strength. That slight bend in your elbow is the bend that should be present when you extend your pistol out to full presentation.
- **“How far back do I bring my pistol on a reload?”** There are many different opinions based on...many different opinions. Quantifying it is difficult -- until now. All one needs to do is rotate the pistol back to where he can read the writing on the slide. That will be the point where visual acuity and manual dexterity intersect.  
  
(\* Note that if you have a visual disability, the default position would be where you read with prescription reading glasses.) Oddly enough, that is the exact same motion as taking a can of soup off a shelf and reading the contents. This motion is conducted countless times at countless angles when we pick up an item to examine it. Now we have co-opted a motion that operates at the intersection on manual dexterity and visual acuity.
- **When teaching the reload itself**, one need only tell the student to pull an object from his pocket, and examine it or take a cell phone from a belt carrier. That motion is nearly identical to a reload: The hand goes into the pocket or to the carrier and retrieves the item. As the hand clears the pocket or pouch, the elbow drops and rotates the hand to the default focal length (the point at which the relaxed eye focuses -- imagine reading a book) in the center of the body.

## PHYSICAL FACTORS

There are five individual physical factors that affect a shooting platform or style:

### 1. SIZE

The size of the shooter will determine grip and stance. A smaller shooter with smaller hands will hold a pistol differently and may need to have a more aggressive stance than a larger one. Though that is not a hard-and-fast rule, it is often the case.

### 2. STRENGTH

The physical strength of the shooter will also affect the construction of a shooting platform. An example is that female shooters often do not extend their arms as much when they are at full presentation. This is more often than not due to actual arm strength, and is easily overcome by more experienced female shooters.

### 3. ABILITY/DISABILITY

If a shooter has a particular disability, i.e., shoulder or back injury, he may not be able to assume a textbook stance, but gets as close as possible.

### 4. VISUAL ACUITY

The ability to see one's sights and target will also affect a shooter with non-20/20, uncorrected vision. It may require the pistol to be held further or closer to the eye to acquire the necessary focus.

### 5. COMFORT

Although this seems ancillary, comfort is important to consistency. If a position is uncomfortable, the shooter will continually be trying to find a comfortable position, and thereby compromise the consistency of his platform. This approach is usually caused by violation of one or more of the above four factors and also seen when a new shooter buys a pistol that does not fit his hand. As he gets more experienced, he will begin to "fidget" with the gun from shot to shot in order to find a grip that feels good. That fidgeting creates tremendous inconsistencies in the shooting platform and degrades accuracy.

## MOVING AND SHOOTING

Oftentimes, moving and shooting is taught as though it is an advanced skill, when in reality it is a basic skill that requires more practice. What do you really need to be taught about moving and shooting?

- **The pelvis faces in the direction of travel**, and the body goes naturally/comfortably where the pelvis faces. If a shooter is twisting or turning his body, he is walking in an awkward manner, and that will have a negative effect on stability and accuracy.
- **Slightly exaggerated bend of the knees**. Most who have been through a military or law enforcement shooting course have heard the term “Groucho walk.” This is a reference to the comic Groucho Marx and his signature exaggerated walk. The goal of that image is to get shooters to exaggerate their steps in order to enhance their ability to manipulate their weight and control their center of gravity. There is a better way to explain the technique, but we must first establish the pertinent components of walking. These components are posture, pace, gait, and balance.
- **Posture** is the position or bearing of the body, whether characteristic or assumed, for a special purpose.
- **Pace** is the rate at which one takes steps.
- **Gait** is the length of the individual steps.
- **Balance** is stability produced by even distribution of weight on each side of a vertical axis.

When learning to shoot while on the move, students must understand that there are only minor variations to their normal posture, pace, and gait to enhance balance and thereby exert better control.

From the modified isosceles shooting posture, as he steps off, the shooter need only slightly exaggerate the bend in the knees, lowering the shooter’s center of gravity straight down. From the waist up, the stance remains unchanged from his static shooting position. This position will lower the center of gravity, allowing the legs to act as shock absorbers and facilitate more control of his body weight and avoid jerky movement or tripping over objects. That bend in the knees will also force him to walk heel-toe and exaggerate his steps as he walks so his feet will clear the ground.

In the end, the only change in posture that is really necessary is a slightly exaggerated bend in the knees. Next will possibly be a change in pace. For

more difficult shots or less-experienced shooters, it may be necessary to take slower steps in order to maintain an acceptable level of accuracy. The final component is gait, and that will vary from shooter to shooter based on the five individual physical factors (size, strength, ability/disability, comfort, and equipment). Understand you will never be able to hold the weapon perfectly still and centered. Accept the bounce, but use your posture, pace, and gait to keep your shot group stringing vertically in the critical areas for incapacitation and not horizontally. Horizontal stringing is a sign that the shooter's pelvis is not facing in the direction of travel and is forcing him to "waddle" as opposed to walking naturally.

**Condensed, that concept comes out as the following description:**

When moving and shooting, take up a good shooting stance, and then as you step off, create a slightly exaggerated bend in the knees and walk heel to toe as though you were sneaking up on someone. Adjust your pace and gate appropriate to your ability and the acceptable level of accuracy required.

\*Anywhere from the neck to the pelvis, from the center of the spine 1.5" right or left (a 3"-band with the spine in the center), is called the "spine box," and shots within it have a very good chance of disrupting spinal function and rapidly incapacitating a human.

\*Some women may find shooting on the move a little more difficult based on their skeletal differences, i.e., the difference in their hip and pelvis format, but it is usually minor if any.

\*The idea of timing your shots to your steps is both unrealistic and awkward. Shooters must find their own "groove" and shoot when the sights are on target not try to force the break of the shots to fit their pace.

**NOTE**

You will never be able to keep the pistol perfectly aligned on the center of the target, but most important is that most of the movement is up and down, not side to side. Unless there is an obvious disability present, side to side movement and the subsequent stringing of shots left and right are symptomatic of an improper or awkward walking sequence by the shooter. Just walk normally with a slightly exaggerated bend in the knees, and accurately shooting on the move becomes quite attainable.

## CHAPTER 8

# MALFUNCTIONS

Malfunctions are a critical training block and are rather simple and straightforward with the Glock pistol. The design and extreme reliability of the pistol make it simple and easily for training. There are two general categories of malfunctions, and those are ones remedied by immediate action (this will include clearing a stovepipe) and those remedied by remedial action. For reference, here is a definition of each:

### IMMEDIATE ACTION

Action taken immediately up recognizing the pistol did not fire when the trigger was pulled. It is designed for the simplest types of stoppage (failure to feed from the magazine, failure of the shooter to seat a magazine properly, dud round, or stovepipe) and generally one or two extremely fast actions that can get the weapon operational again.

### TAP, RACK, BANG

(FOR REASONS OF LIABILITY IN LAW ENFORCEMENT IT IS CALLED TAP-RACK-READY):

1. Tap the bottom of the magazine to ensure it is properly seated, Figures 8-1a.
2. Rotate the pistol just over 90 degrees towards the non-firing side to ensure a stoppage can fall free, Then rack the slide to the rear and attempt to fire, Figures 8-1b – 8-1e.
3. If this fails then go to remedial action.



**Figure 8-1a**



**Figure 8-1b**



**Figure 8-1c**



**Figure 8-1d**



**Figure 8-1e**

## **TAP-RACK-ROLL**

(WHICH WAY AND WHY?)

Many agencies and training venues have been teaching what is called tap-rack-roll, and if done in the manner I have described in the malfunctions chapter, it will accomplish the task of ensuring that a stoppage can drop free during immediate action on a Glock pistol.

First, I do not advocate rotating the hand around so that the thumb points back at the body unless it is being done in a confined space or there is a potential threat within arm's reach and retention is a serious concern. The reason I don't advocate that technique is that it is outside the normal range of motion; violates economy of motion; brings the gun much further off target; exposes the armpit, thereby compromising the armor protection (if being worn) or exposing the shooter to a more lethal oblique shot; and is



slower. Another problem with the thumb pointing towards the body is that this grip obscures and possibly fouls the ejection port.

Rolling the pistol to the shooting side violates range of motion, economy of motion, and general common sense. I have heard some say it is a gross motor skill and the other way isn't—you are using the exact same hand format I advocate, but you are doing it outside of your natural range of motion while obscuring the ejection port and potentially compromising your armor. Another reason given for rolling the pistol to the shooting side is that the lower side of the port is facing the ground, and some say that position will more reliably allow a stoppage to fall free. Figure it out yourself: Lock the slide to the rear and see if an empty case or live round falls free if you turn the pistol slightly more than 90 degrees to the left. The three most common reasons to do tap-rack are failure to load a magazine into the pistol properly, inadvertent dislodging of a magazine, and/or a bad round. None of these is affected at all by rolling the pistol in any direction. The first two issues are that the pistol hasn't chambered a round, and in the last situation, the chambered round is bad, but the extractor has control of it. The fastest way I have found, if a shooter is actively engaging and is not at arm's length or closer, is the method described in the malfunctions chapter. Rotating the pistol slightly more than 90 degrees towards the non-firing side will easily allow a stoppage to fall free, while going further than that only wastes time and takes you farther out of your natural range of motion.

Think about every motion you practice and make sure you know why it is the best solution. In a close-range or contact-distance encounter, I would conduct tap-rack close to my body with my thumb pointed towards my chest. That is because once the pistol is brought in that close, it changes the body's functional range of motion and does not violate it; the other way is just too difficult because the hand working the slide has nowhere to go.

USE THE TECHNIQUE THAT BEST  
ACCOMPLISHES THE TASK.  
KNOW WHAT YOU DO AND WHY YOU DO IT!

## **SWEEPING A STOVEPIPE**

This is done by using the knife edge of the non-firing hand on the side of the index finger and sweeping directly back over the top of the slide, Figures 8-2a & 8-2b. This will dislodge the partially ejected case and allow the slide to continue forward and chamber the next round.



**Figure 8-2a**



**Figure 8-2b**

## **NOTE**

If you begin to conduct “tap-rack” as soon as you see the brass protruding from the ejection port, stop immediately, or you will create a double-feed malfunction in place of the stovepipe.

## **LOCK-RIP-WORK-RELOAD**

This action is conducted when you encounter any malfunction that tap-rack or the stovepipe sweep will not clear. Lock the slide to the rear, rip the magazine out, work the slide if necessary and inspect the chamber/clear any stoppage, re-insert a fresh magazine release or cycle, the slide and fire or safe, Figures 8-3a – 8-3h.



**Figure 8-3a**



**Figure 8-3b**



**Figure 8-3c**



**Figure 8-3d**



**Figure 8-3e**



**Figure 8-3f**



**Figure 8-3g**



**Figure 8-3h**

## DOUBLE FEED EXPLANATION

True double-feeds in a serviceable Glock with a live round chambered and one directly behind it are almost universally caused by operator error. Improperly clearing a stove-pipe, interruption of the slides movement during firing (touching a barricade or piece of clothing), and improper loading sequence may cause it. A true weapon/magazine related double-feed will be caused by a faulty magazine and will often look like a stove-pipe with a live round protruding from the ejection port. It is cleared like a regular stovepipe.

## FAILURE OF MAGAZINE TO FALL FREE ON RELOAD

Conduct a normal reload, but when your hand reaches the magazine well with the partially ejected magazine still present, use your index finger and sweep the stuck magazine from the magazine well without interrupting the majority of your reloading technique, Figures 8-4a & 8-4b.



**Figure 8-4a**



**Figure 8-4b**

## CHAPTER 9

# COMMON MARKSMANSHIP PROBLEMS

### 1. POOR GRIP

One of the most common problems for most shooters is poor grip. Often the non-firing hand is not holding the pistol tightly enough, or the firing hand is not absolutely as high up on the grip as possible. The rule of thumb is 60/40, 60% grip with non-firing hand, and 40% with firing hand. Your non-firing hand is the primary platform for stability when firing two-handed. Think of your support hand as a vice; you put the pistol in the vice and lock it down and then operate it with your primary hand. Many speed shooters use a 70/30 grip, which I advocate for combat and self-defense purposes.

### 2. POOR STANCE

If a shooter does not have a good stance, then he will have problems controlling the recoil in rapid fire. This problem will be evident if as the pistol discharges, a coach can see the toes of the shooter lift off the ground. The following is a good stance: Body square to the target; feet slightly wider than shoulder width apart; firing-side toe on line with the center of the non-firing foot; body attitude slightly forward so that a line drawn straight down would go through the shoulders, knees, and toes; head leaning slightly forward and shoulders forward as well. This position will give the shooter a forward attitude and allow him to control the recoil with his body as well as his hands and arms.

### 3. IMPROPER SIGHT ALIGNMENT

Front sight clear and centered in the rear sight notch flush across the top, with equal bars of light on either side. Maintain focus on the front sight through the break of the shot. The biggest problem with sight alignment is the shooter's tendency, especially at short range, to look at the target right at the instant he expects the weapon to discharge. In and of itself aligning the sights is very simple; maintaining it is the difficult part that takes concentration.

### 4. IMPROPER BREATH CONTROL

Break the shot at the respiratory pause so you are at the peak of physiological stability. This is only a problem on precision shots but is integral to good marksmanship. If you don't get the shot off in the first 3-5

seconds of the respiratory pause, take a breath and start again. Don't force the shot!

## 5. IMPROPER TRIGGER CONTROL

Smooth, steady, even pressure straight to the rear. Press the trigger and LET THE GUN GO OFF; DON'T MAKE THE GUN GO OFF!

## 6. RECOIL ANTICIPATION (FLINCHING)

This is the biggest problem faced by shooters of all levels. The only way to break this habit is to dry fire a lot, which reinforces the proper trigger pull, and then concentrate on each and every shot. The key is not shooting a lot; it's concentrating on the shots you take. This is a learned response based on your anxiety about the noise and recoil associated with firing a handgun. Shooting more will only reinforce your flinch if you don't concentrate on beating it. Don't say to yourself, "Don't flinch." When you do this, your brain, which can only process information actively, will hear the word "flinch", and create a picture of it in your mind, and because that picture is in your mind, you are very likely to act it out. Instead, think, "Apply pressure, smooth, steady even pressure straight to the rear," and like magic, that's what you'll do.

## 7. OVER/UNDER MANAGEMENT

When a shooter attempts to control his pistol better with any means other than good grip and stance, he is likely to over-manage the gun. This action is evident if during a firing string, a coach cannot see the normal recoil cycle and arc of the pistol as it cycles and is almost always accompanied by recoil anticipation. If it is not though, it still degrades performance because the muzzle is being forced below the line of sight instead of being allowed to cycle naturally back to the line of sight. Under management is also known as "riding the recoil." This is when a shooter, at the time the trigger is pulled pulls the gun in the same direction as the recoil impulse, as though he/she is trying to get out of the way of the gun in its recoil cycle. This reaction is easy to diagnose because after the shot is fired, the gun will come to rest pointing 30 to 45 degrees up towards the sky.

## RECOMMENDATIONS:

### 1. FOCUS ON THE FUNDAMENTALS

The only difference between any two shooters is their ability to master the basics. The ability to do the basics better, faster, and with more consistency is what makes a great shooter. There are no secrets to shooting. Make mastery of the fundamentals the goal of your practice.

## 2. DRY-FIRE

This will give you the opportunity to practice the principles of marksmanship (minus recoil management). By removing the recoil, you will remove the desire to flinch, which means that every time you pull the trigger, you are teaching yourself not to anticipate. As well as helping break recoil anticipation, watch the front sight and see what it does at the moment the hammer or striker fires. If the front sight dips or jumps in any direction, then your trigger finger placement is incorrect and must be adjusted. If your sights don't move other than a little quiver, then transfer your pistol to your strong side and do the same; then again do it with your support side. To be a well-rounded shooter, you must know your trigger-finger placement with two hands or one handed left or right. Dry-fire practice includes marksmanship, reload, and malfunction clearing drills. Another good habit to get into after you have unloaded your pistol in preparation for dry firing is to field strip and reassemble it. This will help you get to know your pistol better. Don't ever underestimate the value of dry-fire practice; every major shooter does it!

## 3. VALIDATE DRY-FIRE WITH LIVE PRACTICE

You will be able to see the fruits of your labor when you go to the range and conduct live-fire practice.

## 4. SHOOT AS OFTEN AS POSSIBLE

If you want to master any skill, it takes practice, patience, and dedication.

## 5. CHART YOUR TRAINING AND PROGRESS

Keep a log of the drills you do and get a shot timer so you can quantify your goals, times, and progress. Either use the diagnostic test in Annex B or create your own, but have a baseline skills test as a reference point.

## 6. SET CHALLENGING BUT REALISTIC GOALS

Without clear and challenging goals, you won't be able to chart your progress or achieve higher levels of proficiency. Push yourself; try things that you are not sure you can do; you might be surprised at your own

ability! If you have unit or agency requirements, look at them as the minimum standard and train to exceed them easily. NOTE- Don't practice the qualification course; train to be a competent shooter, and the qualification course will be easy. Qualifications should be a validation of your training program.

## 7. DO SOME SORT OF COMPETITION

This adds a little pressure (depending on the type of contest) and helps to identify many shortcomings in your training. It is a good way to validate your skills, have some fun, meet like-minded folks, support shooting sports and the shooting industry, and most importantly, honor the 2nd Amendment to our beloved Constitution!

## 8. SPEND LESS ON GEE-WHIZ GEAR AND MORE ON BULLETS!

All the expensive "Gucci" gear that all the gun writers and so-called "experts" recommend will not make you a better shot. Only high-quality, regular practice will. There are no magic pieces of gear, special bullets, nor any secret guns or accessories. When you go to the range next, look out for the guy or girl who seems to be tearing up the X-ring or A zone. Chances are, their gear will be very basic and their guns will have lots of holster wear. Think about it. Be a good shot...don't just dress like one!

## FOOD FOR THOUGHT

### TECHNIQUE

A method of accomplishing a simple or basic task; it is developed independently, on a micro level, as the most efficient or effective method given a specific set of circumstances.

### TACTIC

An approach to a complex problem using the implementation of a specific set of techniques, allowing an individual or group to remain within the principles of an established doctrine.

### PRINCIPLES

A fundamental law, doctrine, or assumption; also known as specific and/or broad doctrinal rules that always apply and do not change with the situation. These principles can be accomplished with various tactics given different factors (METT-C for you military types). Examples are 360-degree security and over-watch.



## CHAPTER 10

# ASSESSING PISTOL TRAINING

### ELEMENTS OF GOOD TRAINING

#### 1. SAFETY

Safety is an implied task in all training and should not be compromised. There is a world of difference between high-risk and unsafe training. High-risk training is conducted because the benefit of the training outweighs the potential risk, and control measures are put in place to mitigate the risk as well. Unsafe training is just that and is foolish.

#### 2. APPLICABILITY

- a) What are you trying to accomplish with any particular drill or type of training? Is it within your mission set/normal task list of conditions that may require the use of a handgun?
- b) What skills will these tasks require?
- c) What drills will help to build those skills?

#### 3. PRECISION

- a) Do every motion and drill slow enough to do it correctly until you have created the muscle memory to do it correctly reflexively. Understand that exhaustive tests have been done by military Special Operations and have found that well-trained operators can lose as much as 30% of their proficiency under extreme physical and emotional stress. Plan to train in excess of the skills you believe you'll need on demand.
- b) "Smooth is fast...but slow is just slow!" KL. Go at your max speed and back it down a notch or two. This is the speed at which you can consistently perform quickly and efficiently. Force yourself to slow down on the more difficult tasks and speed up on the easier ones. \*Speed comes with proficiency, not the other way around! Shoot well and you'll shoot fast; if you start out shooting fast, shooting well will be much more elusive.
- a) Use the principle of economy of motion in all your drills and practice. Don't waste time on extra movement. Know why you do each technique and why it is the best solution for the task.

- b) Everything is a rehearsal for something. There is no time when “half-ass training” is ever acceptable. Every time you conduct an action in training, it should be at combat speed and with the best level of proficiency you can muster. For example, any time you draw your pistol or conduct a reload, do it as if your life depends on it, as you would do it in the potential confrontation you’re training for.
- c) Attention to detail is mental precision. If you are not mentally precise, how do you expect to be physically precise?
- d) Test yourself cold. If you want to know what your draw speed is for one shot, come to the range in the morning, pull out the timer and time your first 3-5 one-shot draws. That is a more realistic way to tell what your true on-demand speed is, rather than doing 30 one shot draws and then timing yourself.

#### 4. REPETITION

- a) It takes about a thousand repetitions to give your body muscle memory. Take the time to conduct the necessary amount of proper repetitions to get proficient. Start out slow and precise and then pick it up as you get better.
- b) It takes two to three times that amount to undo bad habits. “Practice makes perfect” is almost correct. Actually, “perfect practice, makes perfect.”

#### 5. SUSTAINABILITY

- a) How often must you reasonably train to sustain the skills you desire?
- b) How much ammunition will that require?

#### 6. REALISTIC GOALS

- a) Are your goals realistic for the personnel, time, and resources?
- b) Are they unnecessarily difficult or easy relative to the mission-essential task requirements for your job?

## CHAPTER 11

# DISASSEMBLY, MAINTENANCE, REASSEMBLY, AND FUNCTION CHECK

### 1. FIELD STRIPPING

- a) Ensure that the pistol is unloaded; lock the slide to the rear and double check.
- b) Point the pistol in a safe direction and pull the trigger, releasing the striker.
- c) Grasp the pistol with the thumb under the backstrap and the remaining four fingers on the top of the slide. Squeeze your hand like you are making a fist so the slide comes back 1/8 inch.
- d) While holding the slide to the rear, pull down the slide lock on both sides of the frame.
- e) Release the slide while still holding the slide-lock lever and push it forward until it is fully separated from the receiver.
- f) Pull up on the captured recoil guide-rod assembly and lift it away from the barrel.
- g) Remove the barrel by pushing it forward so it unlocks from the barrel and then lift it up and out at a 45 degree angle from the slide.

The Glock pistol is now fully field stripped.

### 2. CLEANING

#### BARREL

Scrub the feed ramp and barrel hood area with a general-purpose brush and oil or some type of gun-cleaning solvent. (\*This is always done first so you do not re-foul the bore by cleaning the feed ramp second.) Clean the barrel by running a wet patch through the bore and following up with a bore brush or bore snake. Once the bore is free of fouling, run another wet patch and then several dry patches through until it is clean and dry and visibly shines. Wipe any carbon buildup off of the outside of the barrel and out of the cam surface below the feed ramp.

#### SLIDE

Scrub the underside of the slide using a general-purpose brush and oil or some type of gun-cleaning solvent. Using a clean rag, wipe out the fouling and excess oil. Repeat as necessary until the slide is free from visible fouling. A quality synthetic spray degreaser/ action cleaner that will not harm plastic, wood, laminates, rubber, or composites will make this extremely quick and easy.

\*Carburetor cleaner, brake cleaner, or the like is corrosive and should never be used.

#### FRAME

Scrub the interior of the frame using a general-purpose brush and oil or some type of gun-cleaning solvent. Using a clean rag, wipe out the fouling and excess oil. Repeat as necessary until the slide is free from visible fouling. Again, a quality spray degreaser will allow cleaning out the interior of the frame without a detailed disassembly.

### 3. LUBRICATION

#### BARREL

Once the barrel is cleaned in the manner stated above, all that it requires is one drop of lubricant in the cam surface and one drop spread around the locking stepped portion of the barrel hood.

#### SLIDE

Put one drop in each rail and stand the slide up front sight down to let it run the length of the slide rails. Use a small dab of lithium grease on the surfaces where there is metal-on-metal contact, like the firing pin safety plunger and striker heel. Lithium or molybdenum grease will not evaporate and gives outstanding performance, even when wet and fouled with powder residue.

#### FRAME

Put a dab of lithium grease in the trigger mechanism where the trigger bar contacts the connector. Other than that, no additional lubrication is required.

### 4. FUNCTION CHECK

- a) Ensure the pistol is unloaded.
- b) Cycle the slide so the striker is in the pre-cocked position and check to see that the trigger has come forward.
- c) Pull the trigger and hold it to the rear; the striker should fall.

- d) While holding the trigger to the rear, cycle the slide.
- e) Release the trigger, and a metallic “click” should be heard. That is the disconnecter resetting.
- f) Pull the trigger again, and the striker should fall.

## ANNEX A

### ALTERNATE POSITIONS

When conducting shooting training, a barricade with shooting ports in it is an invaluable aid for teaching shooters one very important concept: If your sights, muzzle, and eye can see the target, and it is within the normal range of the pistol, you can effectively engage.



Figure A-1a

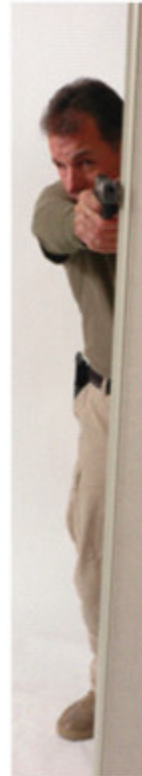
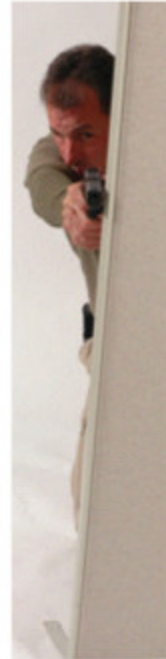


Figure A-1b

**Standing Cover Usage**



**Figure A-2a**



**Figure A-2b**

**Kneeling Cover Usage**



**Figure A-3a Front**



**Figure A-3b Top View**

**Prone Cover Usage**

## ANNEX B

# PISTOL TRAINING TIPS AND DRILLS

### TRAINING TIPS

1. **Know the subject matter or ask questions.** First and foremost, if you are instructing, know what you're doing, why you are doing it, and why it is the best solution. Be able to field questions. If you are a student and you don't understand something, ask a question. Any quality instructor will be glad to answer you. (\*Don't consider "That's how we do it here" as a reasonable answer.)
2. **Dry fire!** Dry-fire practice is an integral part of every accomplished shooter's training program. Even if you only dry fire a few minutes a day, you will see substantial benefits on the range. When I dry fire, the first thing I do is re-clear my pistol, disassemble and reassemble it. In this way, there is no way I can accidentally discharge a round, and for those less familiar with their Glock, it's just good practice. \*Dry fire includes all aspects of pistol shooting: marksmanship, reloads, malfunctions, etc.
3. **Structure training prior to going to the range.** Have a plan for what you want to accomplish in each training session. Integrate that into a long-term plan for overall proficiency.
4. **Institute a "prepare for firing" stage.** This requires a shooter to clear and disassemble his weapon, run a patch through the bore, and ensure the pistol is properly lubricated. Then reassemble and conduct a function check. This practice reinforces good maintenance and inspection habits as well as encourages conducting a function check after every disassembly/ reassembly sequence.
5. **Use a shot timer when appropriate.** Use this to keep track of all scores and times in a training log. The introduction of a shot timer also increases the stress level and helps a shooter learn to deal with it.
6. **Conduct one-on-one competition.** When in groups, this builds esprit and teaches shooters to deal with the anxiety of on-demand performance.
7. **Train on individual techniques.** As shooters build solid proficiency, then incrementally integrate them into dynamic shooting stages. Make the shooting stages consistent in their setup by writing down the



distances and target types as well as the scoring criteria so they are repeatable and will show progress over time. Have a group of shooting stages (standards) that are only shot for score and not practice. Unlike a qualification, these are much more difficult and should replicate your operational requirements.

8. **Integrate malfunction training into every range day.** Even if it is only 15 minutes of dry fire, it is well worth the time.
9. **Everything is a rehearsal for something.** Don't accept substandard performance! Every time you draw your pistol or reload, it you are getting a free repetition and a chance to perfect it before you might have to do it for your life or that of others. There is no true admin time on the range if it is hot. The only thing a shooter should do slowly is clear the weapon. Other than that, all tasks should be conducted as rapidly as can be done effectively, i.e., "at combat speed."
10. **Score, paste, and change targets frequently.** The targets' benefit is that it will show you exactly where your shots went... if you paste it frequently. If not, you will have no real feedback and are defeating the purpose of the target itself. Another technique is to trace a smaller acceptable hit area and only paste shots outside of that. For instance use a marker to trace a 5"x8" rectangle on the center mass of the body and a 3"x5" rectangle center mass of the head.
11. **Frequently do "blind shoots" and impromptu qualifications.** A blind shoot is a course of fire that is not announced until the shooters reach the firing line. It will give the instructor and shooter alike the ability to see how he/she responds to impromptu marksmanship/training challenges. If you are alone, just make up a stage that requires you to do as many different tasks as is reasonable given safety, the range and your skill level.
12. **Smooth is fast.** It is often said that "slow is smooth and smooth is fast." This is contradictory in its verbiage and would be far better stated as "smooth is fast." Smooth may be fast, but slow is just slow. The reason this adage even came about was to get new shooters to move smoothly and thereby more efficiently. When your body moves in a jerky manner, for instance, when conducting a draw, you conclude you draw stroke faster, but because of the jerkiness of the movement, you end up searching for your front sight and actually shooting slower instead of

faster. Body mechanics are all about smoothness and economy of motion. Remember, learn to go smooth and accurate first, and the speed will come.

WITH PROFICIENCY COMES SPEED, NOT THE OTHER WAY AROUND.

13. **Continually challenge yourself.** Once you have achieved your training goals, you are far from done. Always try to do it faster, at a longer distance, or with a smaller target. Push yourself, and you'll be amazed at what you can do. Your qualification is the minimum standard, not the maximum to which you should aspire. Passing any type of qualification is just a validation of your baseline skills, as well as the validation of your training program. Even shooting a perfect score, though commendable, is still not enough. Shoot a perfect score with 25% less time or 25% more distance.
14. **Any caliber will do, so get converted!** What's meant is marksmanship is marksmanship, no matter what the caliber. It is very beneficial to get a .22LR conversion for your Glock. I believe the best one available is made by Advantage Arms and will accept common sights that fit on your Glock. In this way, you can configure it so the sight picture is the same as your full-caliber pistol. The conversion locks to the rear on the last shot, so you can practice all types of reloads, and the unit is extremely accurate. By doing this, you can use your standard or duty lower and practice for less than \$15 per 550 rounds. Another benefit to using a conversion is the reduction in noise, and recoil also reduces the desire to anticipate the discharge of the pistol, i.e., a "flinch." Every shot you fire without recoil anticipation is another rehearsal of the right way to do it. Oftentimes, shooters try to beat a bad flinch by shooting more. In reality they are reinforcing the flinch. They would be better suited to dry fire than to continue to spend time and money reinforcing the problem.
15. **Learn to love the things you hate.** By this, I mean take your biggest weakness and master it. If you are not good at 25m shooting then make it your goal to be the best in your unit, agency, department or range you shoot at. Once you conquer a weakness, it will embolden you to challenge other weaknesses. **In reality there are no weaknesses...only strengths that have not yet been perfected!**

## DRILLS

### DRAW

Use a timer on the delay setting. Train to draw and fire one shot in 1.5 seconds or less. For reference, the A-zone of an IPSC target is a good goal. Start at 5 yards and work your way back to 10. If one shot from the holster in 1.5 seconds at ten meters is not very challenging, then cut the time or increase the distance or both.

### RELOAD

Use a shot timer and start with the timer on delay again. From the fully extended and sighted in position, on the buzzer fire a shot, conduct a reload and fire an additional shot. The timer will show your first and second shot and the split between them. That split is the time it takes to reload. The maximum time should be 4 seconds; the goal is under 2 seconds.

Below are two courses of fire that are already written up. Notice their structure and use them to make up your own. Create your own acceptable hit area and modify the times as you need. These are here to give you an idea how shooting sessions can be structured.

### NOTE

You will get far more out of 50 well-planned rounds than 300 shot haphazardly.

## SAMPLE COURSES OF FIRE

### MARKSMANSHIP COURSE FOR SUSTAINMENT TRAINING

(Distance will be dictated by shooter ability, and turns may be omitted if there are any safety concerns.)

Set	Drill	Target Type	Rds.
1.	One Mag, Two hands, Slow fire	25 Yd. Bull	10
	One Mag, Strong hand, Slow fire	25 Yd. Bull	10
	One Mag, Weak hand, Slow fire	25 Yd. Bull	10
2.	One-Shot Draw	Silhouette	10
	Draw and Controlled Pairs	Silhouette	10
	Shot - Emergency Reload - Shot	Silhouette	10
3.	One-Shot Draw	Silhouette	10
	Draw and Double-Tap	Silhouette	10
	Mozambique Drill (All Drills Shot with 180° Turn)	Silhouette	10
4.	Six-Shot Rhythm Drill	Silhouette	30
5.	Mag Exchange Drill (DRAW AND FIRE ONE SHOT, CONDUCT MAG EXCHANGE, FIRE ONE SHOT CONDUCT MAG EXCHANGE, ETC UNTIL DRY)	25 Yd. Bull	30
6.	Tap-Rack Drill (ONE MAG FREESTYLE, ONE MAG STRONG HAND, ONE MAG WEAK HAND)	25 Yd. Bull	20
7.	One Mag, Freestyle, Slow fire	25 Yd. Bull	10
	One Mag, Strong hand, Slow fire	25 Yd. Bull	10
	One Mag, Weak hand, Slow fire	25 Yd. Bull	10

**TOTAL ROUND COUNT IS 200 PER SHOOTER**

## NOTE

Distances should be tailored to the shooters' abilities

## MARKSMANSHIP VALIDATION COURSE

(Times may be modified as necessary. All must use a shot timer keeping cumulative time.)

Distance	Course of Fire	Time
7-Yd. Line	5 Shots, Strong hand only	:10 sec.
	Reload	
10 Yd. Line	5 Shots, Weak hand only	:10 sec.
	5 Shots, Strong hand only	
	Reload	
15-Yd. Line	5 Shots, Freestyle	
15-Yd. Line	Draw and fire one shot, 10 times	:20 sec.
20-Yd. Line	Draw while stepping to cover and fire 2 rounds, five times	:25 sec.
25-Yd. Line	10 shots slow fire	5:00 min.

**TOTAL ROUND COUNT IS 50 PER SHOOTER**

## ANNEX C

# ACCESSORIES

The Glock pistol requires little if any modifications right out of the box. Some of these are the addition of some form of grip tape to increase the amount of friction the hand gets while holding the pistol. There are two manufacturers that the author has used and believes are a good addition.

### GRIP MODIFICATIONS

#### **Decal Grip**

Pre-cut adhesive-backed panels attach to the frame and slide for enhanced grip without increasing dimensions dramatically. The kits include panels that attach to the front of the slide and are not compatible with most Kydex holsters, like those made by Blade-Tech. These kits are good for use with concealment guns because the texture is not so aggressive that it will ruin clothing through abrasion. It is a good choice for those that carry concealed on the belt or in a belly bag.

#### **A-Grip**

Pre-cut adhesive panels that instead of having a “sandpaper”-like feel have a suede texture that ensures the gun does not snag or damage shirts and associated clothing during prolonged concealed carry. This is also a very good option for those that carry concealed outside of a belly bag.

#### **TruGrip**

Pre-cut adhesive-backed wrap-around panels that are more suited for sport guns (IPSC) or tactical guns that are worn in a thigh rig. They have an aggressive texture, and with a proper shooting grip, virtually ensure the gun will not move in the hand during recoil. The author uses these and believes they are the best option for sport and tactical guns worn in a thigh rig or a standard belt holster. These grips are not recommended for a concealment gun unless it is carried in a belly bag.

#### **Handall**

Hogue produces this slip-on rubber grip enhancement. It is most commonly used by shooters with larger than normal hands. This will increase the dimensions of the grip significantly and is prone to catching clothing when carried concealed due to the tacky nature of the rubber, Meaning that if the person wearing it bends down to pick something, as they stand up, the

clothing does not return to its normal configuration hanging around the waist.

## LIGHTS AND LASERS

The author's favorite light is the Surefire X300 LED weapon light. It is extremely size efficient and has an extremely focused beam, especially for an LED light.

### **No filament**

LEDs have no filament like an incandescent light and therefore are far more reliable. In order to stop the LED from working, the diode must be crushed, unlike a traditional filament light that can have the shock associated with shooting the pistol break a filament.

### **Longer battery life**

LED lights have a substantially longer battery life (3 to 6 times longer, depending on the type of light and comparative incandescent version), and unlike incandescent models that have a specific minimum peak power to run the light, as the battery drains an LED, it just gets dimmer and dimmer. This process will allow the shooter to recognize that new batteries are needed instead of the light just shutting off.

### **Usable Beam**

LED light diffuses differently than traditional lights, and the author prefers the type of light emitted by LED for the shorter range application of a pistol. The new LED technology is completely competitive with incandescent lights on rifles as well, and Surefire has several models of LED rifle lights that reach out as well as any traditional version of comparable size and power source.

Other quality lights are numerous and include the Insight Technology X300 and X600 (light and light/laser). Both are high quality lights and available in various combinations of light or light and laser with incandescent or LED.

## SIGHTS

The standard sights on a Glock are plastic and not very durable for hard use. The author prefers factory tritium sights. These have proven to be extremely durable and are usually well zeroed from the factory.

Aftermarket sights are many, but it is the author's opinion that the Dawson adjustable sight for the Glock is the best adjustable sight available. It will

require a higher front sight but is easy to zero to the individual shooter and has proven very durable.

## **MAGAZINE RELEASE**

There are many different makes of enhanced magazine release. Whatever works best for the shooter and is authorized by unit, department, or agency policy is obviously the best choice, but here is something to consider when selecting an extended or enhanced magazine release: If the weapon is laid on a table on its left side and pressure is exerted on the gun, will the magazine release be inadvertently actuated and release the magazine? This is important in the author's view because it is an indicator of how easy it is for the magazine to be accidentally released. The author takes a factory extended-magazine release and a piece of fine-grit sandpaper and takes off enough stock from the magazine release so it is longer than the standard version but will not release the magazine using the table test above.

## **BASE PADS**

Magazine base pads are an important addition as they will allow the shooter to dislodge an otherwise stuck magazine from the well with much greater ease and speed. The author has used four different models (two different models in Iraq) with good success.

### **Lightning Strike**

(aluminum base pad) - This does not increase the capacity but adds weight and gripping surface and is relatively inexpensive.

### **Arrendondo**

(capacity-increasing polymer base pads) - These are easy to install and can add anywhere from 3 to 8 rounds of capacity, based on the model and caliber. They are supplied with replacement springs and have proven to be very reliable.

### **Dawson Precision**

(aluminum capacity-increasing base pad) - These are probably the best of the lot as far as ease of installation and maintenance but are also the most expensive. They are also dimensionally a little larger than the other two mentioned.

### **Taylor Freelance**

(capacity-increasing polymer base pads) - These are also quality base pads and are reasonably priced. The drawback is that they require an Allen

wrench to install and remove them.

The author has carried both Arredondo and Taylor Freelance models in Iraq and has used Dawson and Lightning strike over the last 5 years for competition, instruction, and training. All four models above have worked well under heavy use and abuse.

#### GRIP PLUG

This is an accessory that fills the gap just behind the magazine well. It keeps dirt and debris from entering the gun via that channel and also aides in rapid reloads by removing the chance of catching the rim of the top cartridge in the magazine on the lip of that channel. There are several models, and virtually any one will do as long as it stays in place. The author's favorite is the Tac-Rac Armorers Tool, which is a grip plug that includes tools to conduct a detailed disassembly of the pistol. If you are not a Glock armorer, it is ill advised to conduct a detailed disassembly of the pistol. That stated, there may be no need for the addition of the tools and the associated cost.

#### INTERNAL PARTS

The author does not recommend replacing any internal parts unless the individual doing it is a trained Glock Armorer. That stated, the only change, if not already present and as long as it does not violate a unit, department or agency policy is the replacement of the 5-pound connector with a 3.5-pound version. Other than that, the stock parts for a training or duty gun are more than adequate.



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